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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/937,290

01/02/2002

Andreas Kanitz

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9714

26574

7590

03/17/2003

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EXAMINER

ROY, SIKHA

ART UNIT

PAPER NUMBER

2879

DATE MAILED: 03/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/937,290

Applicant(s)

KANITZ ET AL.

Examiner

Sikha Roy

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2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☐ Claim(s) \_\_\_\_\_ is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 11-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 January 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 9.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

The Preliminary Amendment (Paper # 7), filed on September 24, 2001 has been entered and is acknowledged by the Examiner.

#### ***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the electron transport layer must be shown or the feature(s) canceled from the claims 20 and 28. No new matter should be entered. Additionally, Fig.1 should be labeled as 'Prior Art'.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 11-15, 17-23,25-28 are rejected under 35 U.S.C. 102(b) as being anticipated by EP 0869701 to Kanai et al.

Regarding claim 11 Kanai et al. disclose (column 3 lines 50-58 Fig. 1) an organic electroluminescent component comprising a substrate 1, transparent bottom electrode 2 situated on the substrate, a top electrode 5 composed of a metal inert to oxygen and moisture (column 12 lines 15-57), an organic electroluminescent layer 3 and a charge carrier injection layer (cathode interface layer) 4 comprising a complex metal salt (halide compound) having at least two metal elements such as  $\text{Na}_3\text{AlF}_6$ ,  $\text{Li}_3\text{AlF}_6$ ,  $\text{K}_3\text{AlF}_6$ , the composition of which can be represented as:  $(\text{Me1})(\text{Me2})\text{F}_{m+n}$  where m and n are whole numbers corresponding to the valence of the metals Me1 and Me2 respectively ( $\text{Me1} \neq \text{Me2}$ ), Me1 selected from Na, Li and Me2 selected from Al, Ca, Mg.

Regarding claim 12 Kanai et al. disclose (column 12 lines 48-57) top electrode (cathode) composed of a metal such as aluminum, silver, gold or platinum.

Referring to claims 13 and 21 Kanai et al. disclose (Fig. 1) the charge carrier injection layer (cathode interface layer) 4 is arranged between the top electrode (cathode) 5 and uppermost organic layer 3.

Regarding claims 14 and 22 Kanai et al. disclose (column 11 lines 51-53) the charge carrier injection layer (cathode interface layer) comprising thickness from 0.2 to 20 nm.

Regarding claims 15 and 23 Kanai et al. disclose (column 11 lines 15-45) the complex metal salts such as  $\text{Li}_3\text{AlF}_6$  where Me1 is lithium and Me2 is aluminum.

Regarding claims 17 and 25 Kanai et al. disclose (Fig. 2) two organic function layers 3a and 3b are arranged between the bottom (anode) electrode 2 and top (cathode) electrode 5, where the conducting layer 3a(hole transport layer) is located on

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the bottom electrode 2 and a layer 3b containing fluorescent dye is located on the conducting layer.

Regarding claims 18 and 26 Kanai et al. disclose (column 5 lines 9-55) that the conducting layer (hole transport layer) contains a material selected from N'-diphenyl-N, N'-bis(3-methylphenyl)biphenyl, polymer having a triphenylamine structure and the emissive layer contains metal complex such as aluminum complex of 8-hydroxyquinoline ( $\text{Alq}_3$ ).

Regarding claims 19 and 27 Kanai et al. disclose (column 1 lines 49,50) the bottom electrode (anode) composed of indium tin oxide (ITO).

Regarding claims 20 and 28 Kanai et al. disclose (column 7 lines 32-37) an electron transport layer 3b arranged on the organic hole transport layer.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 16 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 0869701 to Kanai et al.

Regarding claims 16 and 24 Kanai et al. do not disclose  $\text{LiAlF}_4$  as the complex metal salt. Kanai et al. disclose  $\text{Li}_3\text{AlF}_6$  which is a complex compound of lithium

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aluminum fluoride. It would have been obvious to one of ordinary skill in the art at the time of invention to use  $\text{LiAlF}_4$  instead of  $\text{Li}_3\text{AlF}_6$  both known to be equivalent in the art for their use.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U. S. Patent 5,739,635 to Wakimoto discloses organic EL device with electron injecting layer made of alkaline metal compound comprising Li, Rb, Cs, Na and K. U. S. Patent 6,423,429 to Kido et al. disclose organic compounds used in light emission layer positioned between anode and cathode electrodes.

### ***Contact Information***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sikha Roy whose telephone number is (703) 308-2826. The examiner can normally be reached on Monday-Friday 8:00 a.m. – 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (703) 305-4794. The fax phone number for the organization is (703) 308-7382.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

S.R.

Sikha Roy  
Patent Examiner  
Art Unit 2879



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